CLMPTO

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Claims 1 – 7 have been canceled

8. A DNA sequence which codes for a protein having an enzymatic activity of orotate phosphoribosyl-transferase (pyrF activity) which comprises

a DNA sequence selected from the group consisting of

the DNA sequence SEQ ID NO: 1 in a region from position 1133 up to and including position 1877,

the DNA sequence SEQ ID NO: 2 in a region from position 1 up to and including position 664,

a DNA sequence having a sequence homology of more than 70% with the said region of the DNA sequence SEQ ID NO: 1, and

a DNA sequence having a sequence homology of more than 70% with the said region of the DNA sequence SEQ ID NO: 2.

9. A protein having pyrF activity, which comprises

an amino acid sequence selected from the group consisting of

the amino acid sequence SEQ ID NO: 3; and

an amino acid sequence having a sequence homology of more than 70% with the amino acid sequence SEQ ID NO: 3.

10. An expression vector which comprises a DNA sequence as claimed in claim 8.

11. A microorganism which comprises an expression vector as claimed in claim 10.

12. A process for producing fungal strains which are capable of efficient expression and secretion of proteins, comprising

transforming a fungal strain with an auxotrophic gene defect as host strain in a transformation mixture, using with an expression vector which has a gene for complementation of the auxotrophic gene defect in the host strain;

selecting clones transformed with the expression vector from the transformation mixture by selection for complementation of the auxotrophic gene defect;

controlling expression of the gene for complementation of the auxotrophic gene defect in the host strain by a genetic regulatory element which is active in the host strain; and

employing as host strain a uridine-auxotrophic fungus selected from the group of genera consisting of Trametes, Coriolus and Polyporus with a gene defect in the pyrF gene.

13. An expression system comprising

a host strain selected from the group of genera consisting of Trametes, Coriolus and Polyporus having a genetic defect in metabolism, on the basis of which the metabolite uridine which is essential for growth is no longer synthesized, and the host strain is no longer able to grow on minimal media without addition of this metabolite; and

an expression vector comprising a selection marker gene which complements the auxotrophic gene defect of the host strain, wherein the host strain has a genetic defect in metabolism a defect in the pyrF gene, and the selection marker gene is the pyrF gene from a fungus of the class Basidiomycetes.

14. A process for producing a protein, which comprises employing an expression system as claimed in claim 13 comprising a gene encoding the protein in a manner known in a culture for protein production; and

obtaining the protein from the culture.

15. A process for producing a protein, which comprises cultivating in a culture a microorganism as claimed in claim 11, comprising a gene encoding the protein; and

obtaining the protein from the culture.

16. A process for producing a protein, which comprises cultivating in a culture a fungal strain produced by a process as claimed in claim 12, comprising a gene encoding the protein; and

obtaining the protein from the culture.